



## ARL is an Authority on Nutrition and the Science of Balancing Body Chemistry Through Hair Tissue Mineral Analysis!

Hair Tissue Mineral Analysis



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# Fibromyalgia

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## Fibromyalgia

Fibromyalgia can be best explained as pain in the muscles and fibrous tissues of the body. It is becoming a more common diagnosis, especially when other chronic pain conditions are ruled out. Often muscle pain is accompanied by tenderness and generalized fatigue. What does hair analysis research reveal about fibromyalgia and what can modern nutrition offer for this painful condition?

### Pain And The Adrenal Glands

Many pain syndromes are associated with adrenal insufficiency. Most people with the diagnosis of fibromyalgia are slow oxidizers. This means their adrenal glands are underactive. Their hair calcium and magnesium levels are often very high, while their sodium and potassium levels are low.

This biochemical pattern can produce pain for several reasons. The adrenal glands produce the major anti-inflammatory hormones, cortisone and cortisol. Lowered production of these hormones for any reason can cause or aggravate pain syndromes.

The adrenal glands also produce aldosterone. Aldosterone causes sodium retention. Sodium is a highly water soluble mineral. One of its functions is to keep calcium in an ionized form in the blood. This helps prevent calcium deposition in the tissues.

Low tissue sodium from weak adrenal glands can permit calcium to precipitate out of the blood and deposit in various tissues, including muscle tissue. A tendency for calcium deposition is indicated on a mineral analysis by a very high calcium level. Calcium deposition is another possible cause of pain.

### Imbalanced Sodium/Potassium Ratios

Imbalance of the sodium/potassium ratio is often noted on the hair analyses of those with fibromyalgia. Dr. Paul Eck's research indicates that the sodium/ potassium ratio on a hair mineral analysis reflects the balance between the pro-inflammatory and the anti-inflammatory hormones.

When the sodium/potassium ratio is elevated, it indicates a predominance of pro-inflammatory hormones. This may result in pain. When the sodium/potassium ratio is low, it indicates catabolism or tissue breakdown. This may also cause pain to occur.

### Biounavailable Magnesium

High levels of calcium and magnesium on a hair mineral test often indicate biounavailability of these minerals. This means that some of the calcium and magnesium are in a form that is not usable in the body.

All the mechanisms of biological availability are not understood. However, it is not enough to have a mineral present in the body. It must be in a form, compound or valence that is usable by the body.

For example, many older people have plenty of calcium deposited in their arteries or joints, but the calcium is not available for use in their bones.

Calcium, and particularly magnesium, are essential for energy production and relaxation of the muscles. Deficient or biounavailable magnesium disturbs energy metabolism in the muscles. This may help account for the pain of fibromyalgia. Magnesium supplements or even injections can have dramatic effects upon fibromyalgia patients.

It does not matter if blood tests show adequate serum magnesium. Magnesium may become depleted from the tissues long before serum magnesium levels decrease.

Magnesium is commonly deficient in modern diets. Sources include whole grains, nuts and seeds. A study compared the magnesium levels in organic and commercial foods. It revealed 430% more magnesium in organically grown wheat than in chemically fertilized wheat. Organically grown corn had 300% more magnesium than chemically fertilized corn (J. Applied Nutrition, Vol. 45, #1, 1993).

### Toxic Metals

Toxic metal accumulation may contribute to some cases of fibromyalgia. Among the most commonly seen is copper toxicity. Copper is required for energy production in the electron transport system. About 30% of our cellular energy in the form of ATP is generated here. A copper imbalance profoundly affects energy production. Cadmium, mercury and lead may also contribute to symptoms of muscle pain and weakness.

### Other Aspects Of Muscle Pain

Pain is often an indicator of tissue starvation or tissue damage. A person with fibromyalgia may be deficient in protective nutrients such as the antioxidants - vitamins A, C, E, and selenium.

A deficiency of any nutrient involved in energy production could contribute to symptoms of fibromyalgia. These include the B vitamins, manganese, chromium, zinc, and essential amino acids. Even if the diet is sufficient, impaired digestion and absorption could create an imbalance that is not correctable through diet alone. For this reason, an individualized nutrition program is usually best.

Deficiency of the essential fatty acids of the omega-3 and omega-6 group may also contribute to pain syndromes. These oils are found in foods such as flaxseed oil, black current seed oil, salmon oil, borage oil or primrose oil. Most people do not consume adequate amounts of these oils.

Though it may be hard to believe, food allergies are another factor in some cases of fibromyalgia. Elimination diets and rotation of sensitive foods may prove very beneficial for people with fibromyalgia. By combining all these aspects of scientific nutrition, many cases of fibromyalgia can improve.

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